

ABSTRACT

This invention provides a black low thermal expansion high specific rigidity ceramic sintered body having a black tone, manifesting very small thermal expansion at room temperature and abounding in rigidity and specific rigidity, and a method for the production thereof. The black low thermal expansion high specific rigidity ceramic sintered body is characterized by having a chemical composition comprising 8.0 - 17.2 mass % of MgO, 22.0 - 38.0 mass % of Al₂O₃, 49.5 - 65.0 mass % of SiO₂, a total of 0.1 - 2 mass % of one or more transition elements as reduced to oxides, and 0 - 2.5 mass % of Li₂O, and having the mass ratios satisfy the relationships of (SiO₂ - 8 × Li₂O)/MgO ≥ 3.0 and (SiO₂ - 8 × Li₂O)/Al₂O₃ ≥ 1.2. The method for the production of a black low thermal expansion high specific rigidity ceramic sintered body of this invention is characterized by forming the sintered body in an atmosphere of a non-oxidizing gas at a temperature in the range of 1200 - 1500°C.